

ABSTRACT

An apparatus and a method for compressing a picture by wavelet transform and entropy coding, in which the processing load of arithmetic coding may be relieved and rate control may be carried out effectively as the deterioration of the picture quality is suppressed. In a picture encoding apparatus 1, an encoding object prediction unit 15 predicts bitplanes to be encoded and extracts only those bitplanes which are to be encoded. An EBCOT unit 18 generates an encoding pass from one bitplane to be encoded to another to execute arithmetic coding. In controlling the code volume to a target code volume, based on the arithmetic codes, generated by the arithmetic coding, a rate controller 19 sums the arithmetic codes in a sequence from the arithmetic code with the highest bit position in the totality of the code blocks of an input picture to the arithmetic code of the lowermost bit, from one bitplane to another or from one encoding pass to another, and halts the summation when the predetermined target code volume is exceeded.